

IN THE TITLE:

Please cancel "HIGH PRECISION ORIENTATION ALIGNMENT AND GAP  
CONTROL STAGES FOR IMPRINT LITHOGRAPHY PROCESSES" and  
replace with "A METHOD OF SEPARATING A TEMPLATE FROM A  
SUBSTRATE DURING IMPRINT LITHOGRAPHY".

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IN THE SPECIFICATION:

Please amend the paragraph beginning at page 1, line 6 to read as follows.

This application claims the benefit of provisional application serial no. 60/162,392 entitled "Method and Device for Precise Gap Control and Overlay Alignment During Semiconductor Manufacturing" filed October 29, 1999, by Byung J. Choi, Sidlgata V. Sreenivasan, and Steven C. Johnson, ~~the entirety of which is incorporated herein by reference.~~, and U.S. patent application serial no. 09/698,317 entitled "High Precision Orientation Alignment and Gap Control Stages for Imprint Lithography Process" filed October 27, 2000, by Byung J. Choi, Sidlgata V. Sreenivasan, and Steven C. Johnson, which is incorporated by reference herein.

Please amend the paragraph beginning at page 18, line 11 to read as follows.

With reference to Figures 6A and 6B, therein are shown the first and second flexure members, 126 and 128, respectively, in more detail. Specifically, the first flexure member 126 is seen to include a plurality of flexure joints 160 coupled to corresponding rigid bodies 164, 166 which form part of arms 172, 174 extending from a frame 170. The flexure frame 170 has an opening 182, which permits the penetration of a curing agent, such as UV light, to reach the template 150 when held in support 130. As shown, four (4) flexure joints 160 provide motion of the

flexure member 126 about a first orientation axis 180. The ~~base~~ frame 170 of first flexure member 126 provides a coupling mechanism for joining with the second flexure member 128 as illustrated in Figure 7.

Please amend the paragraph beginning at page 18, line 22 to read as follows.

Likewise, the second flexure member 128 includes a pair of arms 202, 204 extending from a frame 206 and including flexure joints 162 and corresponding rigid bodies 208, 210 which are adapted to cause motion of the flexure member 128 about a second orientation axis 200. The template support 130 is integrated with the frame 206 of the second flexure member 128 and, like frame ~~182~~ 170, has an opening 212 permitting a curing agent to reach a template 150 held by support 130.

Please amend the paragraph beginning at page 24, line 2 to read as follows.

Figure 11B shows a groove-type vacuum chuck 460 with grooves 462 across its surface. The multiple grooves 462 perform a similar function to the pins 454 of the pin-type vacuum chuck 450. As shown, grooves 462 can take on either a wall shape 464 or have a smooth curved cross section 466. The cross section of the grooves 462 for the groove-type vacuum chuck ~~462~~ 460 can be adjusted through an etching process. Also, the space and size of each groove can be as small as hundreds of microns. Vacuum flow to each of the grooves 462 can be provided through fine vacuum channels across multiple grooves that run in parallel with respect

to the chuck surface. The fine vacuum channels can be made along with grooves through an etching process.

Please amend the paragraph beginning at page 25, line 5 to read as follows.

For clarity, reference numerals 12, 18, and 20 will be used in referring to the template, transfer layer and substrate, respectively, in accordance with Figures 1A and 1B. After UV curing of the substrate 20, either the template 12 or substrate 20 can be tilted intentionally to induce a wedge 500 between the template 12 and transfer layer 18 on which the imprinted layer resides. The orientation stage 250 of the present invention can be used for this purpose while the substrate 20 is held in place by vacuum chuck 478. The relative lateral motion between the template 12 and substrate 20 can be insignificant during the tilting motion if the tilting axis is located close to the template-substrate interface. Once the wedge 500 between template 12 and substrate ~~200~~ 20 is large enough, the template 12 can be separated from the substrate 20 completely using Z-motion. This "peel and pull" method results in the desired features 44 being left intact on the transfer layer 18 and substrate 20 without undesirable shearing.

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